Minutes of the Chemical Transportation Advisory Committee Meeting March 18, 1999

A meeting of the Chemical Transportation Advisory Committee (CTAC) was held on Thursday, March 18, 1999, in room 2415, Coast Guard Headquarters, 2100 Second Street, SW, Washington, DC 20593. The agenda for this meeting was announced in the Federal Register under Coast Guard Docket No. USCG 1999-5079, published on Wednesday, February 17, 1999 (FR volume 64, number 31).

1. CALL TO ORDER

Mr. Paul Book of American Commercial Barge Line, acting as committee chairman for Mr. Neal Platzer, called the meeting to order at 9:30 a.m. He introduced Rear Admiral (RADM) Robert North, Assistant Commandant for Marine Safety and Environmental Protection (G-M) and the Coast Guard sponsor of CTAC.

2. OPENING REMARKS

RADM North began the meeting by thanking everyone for attending, and encouraged everyone to become active in future CTAC endeavors. He noted that a number of topics on the agenda are on his list of priorities for the Office of Marine Safety and Environmental Protection, especially the work being done by the Subcommittees on Prevention Through People and Proper Cargo Names.

RADM North welcomed the outside speakers, including Jennifer Kelly of American Waterways Operators (AWO), David Barrow of Lloyd's Register, and Bob Richard from the Department of Transportation (DOT) Research and Special Programs Administration. He noted that there would be several reports on Coast Guard rulemaking projects and initiatives during the afternoon. RADM North then took the opportunity to update the committee on some marine safety issues that affect their work.

Waterways Management

RADM North explained that the Office of Marine Safety and Environmental Protection is working to support DOT and Secretary Rodney E. Slater's Marine Transportation System Initiative. The goal of this program is to ensure that as the U.S. maritime infrastructure grows it is able to meet the demands for a safe, efficient, accessible, economically viable, and environmentally sound national transportation system. This effort, led by Coast Guard and the Maritime Administration (MARAD), involves administrators in DOT and other federal, state, and local agencies involved in ports and waterways. RADM North explained that, although each of these groups acts in a way that it thinks is best, there is not a coordinated systematic approach to waterways management. If these groups work together, he said, ships and cargoes would be able to move more efficiently in and out of U.S. ports.

RADM North recalled that almost a year ago, the group commenced seven regional listening sessions to solicit stakeholder input about the current state of ports and waterways and to determine what is needed to deal with increased traffic in a safe, environmentally secure, and efficient manner. Following these sessions, Secretary Slater held a conference, attended by a

regional cross-section of stakeholders, to form a vision for the future based on the listening sessions. At that conference, RADM North said, they developed what they considered to be the important issues in competitiveness, safety, and the environment and local, federal, and state coordination. The Secretary put together a task force to look at many of these issues. This task force has met to review the results of the conference and will issue a report with recommendations on methods to achieve the goals of this initiative to Congress on July 1, 1999.

RADM North indicated that the initiative is moving in the right direction, and that there are good expectations for the results of the work being done. He explained that through the effort of the federal agencies, stakeholders have been involved in the entire process. The proceedings of Secretary Slater's conference will be published in the Federal Register and a waterways management website is being created to publicize the work being done.

RADM North said that next he would talk in more detail about a meeting he held a few weeks ago with the chairpersons of all of the federal advisory committees. At that meeting, RADM North and the committee chairpersons decided that each committee should designate a member to serve on an intra-advisory Subcommittee on marine transportation. This Subcommittee will provide cross-communication among the advisory committees. He indicated that a representative and an alternate should be chosen during the CTAC meeting.

G-M/Advisory Committee Chairperson's Meeting

On February 11, 1999, RADM North held a meeting with the Federal Advisory Committee Chairpersons. At the meeting, he discussed the future direction of the Coast Guard, the G-M mission and goals, and joint concerns of the advisory committees. Many of the Chairpersons shared the same concerns including the slowing of the committee membership appointment process. RADM North explained that the Coast Guard is currently working to expedite the appointment process. At the meeting, each committee's goals and activities were linked to the G-M business plan. RADM North indicated that the business plan will be updated later this spring and all committee members will receive a copy. The new plan shows that the issues of safety, waterways management, national security, and the environment will gain importance in the next five years. RADM North encouraged all members to review the plan, provide input, and consider how each Committee can continue to support the objectives outlined in the business plan.

Membership

RADM North said that the 1998 CTAC membership slate has been reviewed by the Commandant and forwarded to the Secretary of Transportation for approval. The slate of candidates, however, has not yet been approved. He thanked the eight committee members who have extended their current terms until the new slate is approved.

Closing

RADM North reiterated that he was looking forward to a great meeting, and that it was a pleasure being with the committee. He noted that they had a full agenda, and suggested moving forward with the business at hand. He wanted to remind the attendees to visit the PTP Internet homepage, which he described as an excellent source of information and an important tool for communication between industry and the Coast Guard. RADM North then asked if anyone had questions, and indicated he would also be willing to take questions later in the meeting.

3. CHAIRMAN'S REMARKS

Mr. Book thanked RADM North and welcomed everyone to the spring 1999 CTAC meeting. He explained that he was acting for Neal Platzer, the CTAC Chairman, who was unable to attend the meeting due to illness.

Mr. Book reviewed the meeting agenda. He indicated that Commander (CDR) Bob Corbin, Executive Director of CTAC, would be discussing issues directed at the work efforts of the committee. In addition, he noted that there would be reports from Mr. Calvin Bancroft of Ocean Shipholdings on the Prevention Through People (PTP) Subcommittee and Mr. Bob Snyder of Union Carbide on the Proper Cargo Names (PCN) Subcommittee. Mr. Book thanked Mr. Bancroft and Mr. Snyder for the significant amount of time that they have devoted to their respective Subcommittees.

Mr. Book pointed out that after the break for lunch, there would be presentations on some of the other business before CTAC. These presentations would include updates on regulatory processes and ones on safety, such as the AWO Responsible Carrier Program. Mr. Book expressed a great interest in the Best Oil Spill Response Practices and New Concepts presentation, because his belief is that the sharing of information will promote safety in the marine industry.

Mr. Book explained that, as the meeting continued, each committee member should consider the future of CTAC. These considerations should not be concerned solely with the formation of new Subcommittees, but should include how each person can be more involved in ongoing Subcommittee work. Mr. Book stated that his Subcommittee work over the past seven years has been informative and beneficial in his regular job. Involvement in Subcommittees is part of the CTAC charter, he explained, and as members we should all be involved. In addition, Mr. Book asked the CTAC members to consider if the committee should have a documented mission or a plan with objectives for the future. He also raised the questions of how Subcommittee work can continue after final reports, and methods to educate the public on CTAC products.

In conclusion, Mr. Book shared his personal belief that as committee members they should share and educate each other. He requested that all of the attendees pay careful attention to the presenters and ask questions about the subjects. He thanked everyone for his or her time and participation and introduced CDR Corbin.

4. EXECUTIVE DIRECTOR'S REMARKS

CDR Robert F. Corbin, Chief of the Hazardous Materials Standards Division and Executive Director of CTAC, welcomed everyone to CTAC's spring 1999 meeting. He extended a special welcome to RADM North and Mr. Book and to all returning committee members.

He explained that it has been a busy six months since the last meeting. The PTP Subcommittee has been very active in addressing fatigue issues and fit for duty testing and the PCN Subcommittee has been meeting monthly to develop recommendations to resolve problems in using proper cargo names during the shipment of bulk liquid hazardous materials by vessel. CDR Corbin remarked that he looked forward to their presentations. He took the opportunity to thank the members of both Subcommittees and encouraged everyone to participate in the Subcommittees.

CDR Corbin said he hoped that the CTAC 1998 appointment slate would be approved shortly. He thanked the committee members who agreed to extend their membership until these

appointments are made. He indicated that applications for the 1999 slate are currently being accepted. These applications are kept on file for one year, so that anyone who applied prior to 1998 must complete a new application. CDR Corbin said that anyone interested should contact Sara Ju in the Hazardous Materials Standards Division.

CDR Corbin remarked that there were some other items he wanted to mention. On April 1, 1999, the SOLAS BLG working group will meet to discuss the U.S. positions for the upcoming Bulk Liquid and Gases Subcommittee meeting at IMO. In addition, he stated that the new CHRIS manual is at the printers, and will soon be for sale through the Government Printing Office (GPO). Anyone requiring additional information, he said, should contact Dr. Alan Schneider of the Hazardous Materials Standards Division.

CDR Corbin indicated that the most recent issue of the *Proceedings of the Marine Safety Council* included many interesting articles, especially concerning the Coast Guard's Hazardous Materials Program. He also announced that the Commandant of the Coast Guard, Admiral (ADM) Lloyd, would appear on the Washington Journal program on CSPAN to discuss Coast Guard issues and field calls from the public. He cited this as an excellent opportunity to discuss topics of interest with the Commandant.

CDR Corbin reminded everyone that the meeting was being video and audio taped for the permanent record and that minutes would be prepared from tapes and notes. For the record, he stated, the meeting was announced in the Federal Register on February 17, 1999 volume 64 number 31. CDR Corbin then turned the meeting over to Mr. Book.

5. INTRODUCTION OF COMMITTEE MEMBERS AND ATTENDEES

Mr. Book asked all committee members and attendees to introduce themselves and give their affiliation. A listing of attendees is included as Enclosure (1) for information.

6. SUBCOMMITTEE REPORTS

A. Prevention Through People (PTP) Subcommittee Report

Mr. Bancroft began by thanking the PTP Subcommittee members and LT Tim Meyers and William Abernathy of U.S. Coast Guard Headquarters. He started his presentation with an overview of PTP objectives and strategy.

Mr. Bancroft explained that PTP pertains to the human element of accident prevention. By emphasizing the roles of people in preventing casualties, the Subcommittee hopes to achieve the safest, most environmentally sound, and cost-effective marine operation activities. To reach this goal, Mr. Bancroft said, the PTP Subcommittee approach focuses on job design and engineering principles to evaluate the human factor. The results will include additional benefits such as reduced human errors affecting safety; increased capacity of the maritime transportation infrastructure; enhanced product effectiveness, efficiency, safety, and convenience; decreased insurance issues and operating expenses; and increased marketing abilities by demonstrating successful environmental, safety, and health records.

Mr. Bancroft continued by reviewing the PTP Subcommittee long-term task. He related that the original PTP tasks were to examine fit-for-duty testing techniques and evaluate their applicability to the chemical maritime industry, and to review manpower resources as a system designed to

meet performance standards. This task would include examining staffing levels, length of watches, and effects of circadian rhythms on how personnel meet these performance standards.

Mr. Bancroft explained that the PTP Subcommittee review was centered around the fact that the chemical transportation industry requires humans to effectively function on a 24-hour basis, which provides physiological challenges. These physiological challenges may lead to cognitive decrements in human capability and decrease the quality and consistency of human performance. This, in turn, could result in increased accidents and injuries, and therefore, increased societal and industry costs. Mr. Bancroft added that aspects of performance, when affected by fatigue, can effect behavior, including mood and stress. Mood variations may impact socio-psychological well being, affecting crew dynamics and the overall effectiveness of the marine unit.

The PTP Subcommittee's goal, according to Mr. Bancroft, is to discover any recommendations that can enhance an organization's accident prevention and safety management efforts, while honoring the mariner.

The Subcommittee's research has revealed that performance of fitness-for-duty testing may be placed in several subcategories, such as motor, perceptual, and higher cognitive. Mr. Bancroft specified that the preferred methods of testing would combine the ability for a high frequency of the testing with relative low per test cost. Also, he added, the fitness-for-duty tests should be able to detect a wider range of stressors, including alcohol, drugs, and fatigue.

Following the fall 1998 CTAC meeting, Mr. Bancroft said, the Subcommittee reviewed the fitness-for-duty testing issue, and, due to legal implications, determined that the testing in the chemical transportation industry should be used only for training guidance and education. These tests should be performed in a controlled environment with the goal of improving the lives of personnel. The tests should be conducted in a manner that allows industry to obtain data while preventing further intrusions in a mariner's workday.

Mr. Bancroft said that the Subcommittee has focused their efforts on obtaining testing programs for training purposes which can be presented to the Ship Operations Cooperative Program (SOCP). The units obtained were a Nova Scan unit and the Bolwes-Langley Technology alertness-testing unit. As was formally requested and presented at the November 1998 SOCP meeting, the testing program units could be employed at a SOCP member facility. The most significant benefit would be to alert seafarers by providing them with objective evidence that human performance may be negatively effected by various factors and give them guidance on enhanced alertness and fatigue counter-measures. In no way, Mr. Bancroft said, is the testing meant to be work prohibitive in scope or rationale and its purpose should not be misconstrued.

The PTP Subcommittee recommends presenting the available awareness units, with instructions and testing program, to SOCP for use at a member facility, state academy, or on U.S. Coast Guard vessels, with a request that any feedback is reported at a future CTAC meeting. In addition, Mr. Bancroft said, the Subcommittee has discussed requesting that SOCP develop an informational video on fatigue and awareness similar to other videos they produce for industry use. With SOCP assistance, he explained, the outreach effort and educational benefits can be increased. The Subcommittee stresses that this effort is designed to promote awareness of the issues among mariners and is not a regulatory of prescriptive issue.

Regarding the second PTP Subcommittee task, reviewing manpower resources as a system designed to meet performance standards; the Subcommittee reported on results from tests of alternative watch schedule schemes as a foundation of a non-regulatory effort. Mr. Bancroft

explained that there have been few shipboard experiments to document the effects of fatigue, although the Coast Guard Office of Operating and Environmental Standards Branch is currently conducting a study on crew alertness and minimum manning. The traditional watch schedule followed by most of the world's fleets, four hours on and eight hours off, appears to interfere with normal sleep cycles. He explained that studies have shown that fatigue and sleep loss produce a narrowing or selectivity of attention. Subjects suffering from fatigue tend to monitor one source more than the other in dual source vigilance tests, and often concentrate on the expected event, missing the unexpected event when it happens.

Mr. Bancroft reported that one shipboard study, funded by the West German Ministry for Technology and Research, confirmed that the three watch system may produce sleep degradation and diminish vigilance and performance in monitoring and judgement (Colquhoun et al, 1998; Condon, et al, 1988; Rutenfranz, 1988). This study recommended a new system to give officers full-length periods of maximal restorative sleep each day.

Under 46 U.S.C. 8104, Mr. Bancroft explained that the establishment of adequate watches, is the responsibility of the vessel's master. The Flag State interprets the term watch to be the direct performance of vessel operations, where they would routinely be controlled and performed in a scheduled and fixed rotation. The statute also requires that watch personnel, when at sea, be divided into at least three watches and kept on duty successively to perform ordinary work incident to the operation and management of the vessel.

To study the merits of a non-traditional watch rotation, with regard to fatigue and manpower, several vessels in the Oceans Shipholdings Fleet implemented the watch rotation schedule proposed by the German Assembly at IMO. The implementation was done, Mr. Bancroft noted, at each crew's own discretion and under their own initiative, after reading materials provided by CTAC. The German Model allows officers longer periods of uninterrupted rest. The vessels using this German model have worldwide trading routes, with 6 to 12 port calls per month. Mr. Bancroft took the opportunity to acknowledge the masters aboard these vessels that took this initiative: Captains Duane M. Hockenberry, Severin A. Saluelsen, Jordan M. Katz, Edward D. Pfaeffle, and Albert F. Beede. Their efforts resulted in the determination of associated benefits, which enhanced the human element factor.

Mr. Bancroft reported that the experiences of these vessel crews who were engaged, and remain engaged, in the alternate watchkeeping schedules, were extremely positive and demonstrated the benefits of the alternative schedule. They experienced improved efficiency, alertness, and personnel performance which led to enhanced safety of vessel operations, decreased fatigue-related personnel errors, improved environmental integrity, and enhanced manpower resources. The masters noted that the alternative schedule gave the officers enough time to handle their personal requirements resulting in better morale. It also exposed officers to all able-bodied watchstanding seafarers on the vessels, giving them an opportunity to assess the seafarer's skills and competence. In addition, the schedule allowed time to handle other vessel duties, reducing the possibility of a ""chain of errors."

The PTP Subcommittee recommendation is to present the alternative watch schedule study for review at the upcoming SOCP meeting, March 24-25, 1999, for the endorsement of the SOCP members. The PTP Subcommittee would recommend that SOCP forward this information to their member organizations as a safety consideration. Mr. Bancroft added that consideration should be given to including the alternative watch schedule scheme in an upcoming edition of the *Proceedings* magazine to promote awareness of the concept while accomplishing the PTP goal of "honoring the mariner." Also, he said, this information could be disseminated to the marine

transportation industry via the Marine Safety Newsletter and the PTP website. Lastly, the PTP Subcommittee would request that SOCP provide any feedback on the possible implementation of the alternative watch schedules within any of their member fleets, to share lessons learned.

In conclusion, Mr. Bancroft stated that the PTP Subcommittee and its work group have reached closure on their long-term task assignments to the extent possible. A copy of the PTP Subcommittee Report is attached as Enclosure (2) for information.

Mr. Richard Rodgers of Hvide Marine complimented Mr. Bancroft on his report and the Subcommittee's work. Mr. Rodgers asked if they had considered coastal vessels, which can dock 18 to 20 times a month. Mr. Bancroft indicated that the vessels they studied were deep-sea vessels, and that using the specific alternate watch schedule used in their study might be more difficult on coastal vessels.

Captain Lee Kincaid of the Calhoun MEBA Engineering School commented that the alternative watch schedule scheme used might not work for all vessels and routes. He added that the alternative schedule allows for more flexibility and time off, and that seafarers may be able to obtain a good 8 hours of rest.

Mr. Bancroft remarked that the Subcommittee had not considered overtime variances and expenditures in the alternate schedule, but that the improved morale and alertness of the crew outweighed those factors.

Mr. Rodgers said that the study is a foundation to consider, but that for some ships, there are frequent tank cleanings, dockings, a lot of in and out, and the alternate schedule poses a problem on how to adequately deal with these events.

Mr. James Varley of Stolt Parcel Tankers asked if meal schedules were affected by the alternate watchkeeping schedule and if the actual rest taken by the crewmembers was documented.

Mr. Bancroft replied that the actual rest was not documented, but that at least 8 hours of that time allotted was devoted to rest. He indicated that the catering schedule was modified slightly to accommodate the alternate watch schedule, such as extending mealtimes by half an hour. In addition, the vessels have an open pantry, which could be used at any time.

Mr. Book thanked Mr. Bancroft for his presentation. Captain Kincaid asked if there should be a vote to approve recommendations to be presented to the SOCP. After Mr. Bancroft repeated the recommendations, they were voted on and approved.

Coast Guard Research and Development

LT Lionel Mew presented information on the Coast Guard's ongoing research and development efforts in the area of fatigue. The presentation was developed in response to CTAC Chairman Neal Platzer's letter regarding the work this committee was doing on issues related to fatigue and is aimed at preventing duplication of effort in this area.

LT Mew explained that the duties of the Marine Personnel Qualifications Division (G-MSO-1) include merchant marine related issues such as developing personnel qualification standards and guidance, coordinating study efforts for evaluation, representing the U.S. on manning and personnel issues, and developing standards accounting for the human element in crew qualifications and manning. G-MSO-1 sponsors several research and development projects

conducted at the Coast Guard Research and Development Center (R & DC) aimed at finding ways to take into consideration human weaknesses such as fatigue.

The first fatigue study, the Deep Draft Fatigue Study, was completed in 1996. LT Mew remarked that work is being done on implementing the recommendations of this study, including ways for crewmembers to manage their sleep patterns and eating habits. This study, he explained, demonstrated that more research was needed on fatigue. Current projects include determining minimum manning standards, developing a tool for determining manning standards and evaluating proposed manning changes, improving watchkeeping alertness in towing operations, and increasing crew alertness on commercial vessels.

The Minimum Manning Standards Project, LT Mew explained, examined standards and developed new tools for determining crew sizes. NRC recommended that crew size be determined by considering tasks required to be performed by the crew. LT Mew explained that the Coat Guard contracted with Battelle Seattle Research Lab to develop a tool to support determination and evaluation of vessel crew size standards. The Crew Size Evaluation Model (CSEM) is a computer-based analysis tool that evaluates proposed crew sizes according to data entered such as crew tasks, vessel types, and voyage profiles. The CSEM Beta-version has been developed and delivered, user documentation was produced, and user training was conducted. Currently, LT Mew said, the CSEM Beta-version testing is continuing, the interim report will be delivered to the sponsor this spring, and the final software and documentation is due in the fall. In the future, the Coast Guard plans to refine and expand the CSEM tool and has asked the contractor to provide developer documentation for future revisions.

The objectives of the study on improving crew alertness on commercial vessels, which is being conducted by Battelle Seattle Research Lab, are to measure and assess effects of human factors on mariner alertness and performance and to provide and test recommendations to improve alertness and prevent fatigue. LT Mew explained that they have collected data on fatigue from the crew of the KEYSTONE TEXAS, a deep draft tanker. The data, collected from crew EEGs, interviews on watch, and motion detectors, is currently being analyzed. LT Mew said that the expectation is that the research team will develop a crew endurance plan that would mitigate fatigue without changing the regulations. The project deliverables include a crew endurance handbook that companies and individuals can use to develop their own crew endurance plans, and a report on the findings of the study. The crew endurance plan will be tested on the KEYSTONE TEXAS in summer 1999.

Future plans, LT Mew said, include a fatigue countermeasures analysis project, which will review and prioritize countermeasures, provide implementation recommendations specific to industry, develop handbooks and documentation for various outside agencies and programs, and construct model courses. He explained that the study has not been completely planned because the Coast Guard plans to discuss the objectives of the study with all of the stakeholders to ensure that the proper work is being done.

LT Mew pointed out that items which might be of significant interest to CTAC include work being done on a maritime fatigue training manual, alternative watch schemes, fatigue countermeasures and crew endurance plans to make sure resources are best used.

B. Proper Cargo Names (PCN) Subcommittee Report

Mr. Robert Snyder of Union Carbide presented a status report on the PCN Subcommittee's work. He explained that despite Coast Guard regulations and IMO requirements, some cargoes on board

barges, tankships, and at facilities, are not recognized as classified cargoes. This could be due to a number of factors, including personnel unfamiliar with regulations, the mode being incorrectly assumed, proper technical names not being used, poor communication, unrecognized mixtures, weak enforcement, deficient self inspection processes, limited training, and incorrect shipping papers. These factors result in the bulk shipping of unidentified and possibly unclassified cargoes.

The Subcommittee, Mr. Snyder explained, was tasked with identifying the extent of non-regulatory name usage in all modes of the marine bulk transportation industry. To accomplish this, they used a focus process to determine the extent of this problem. The Subcommittee recognized that this problem will be significantly lessened or be eliminated over time as other recommendations are implemented.

The second task before the Subcommittee was to identify sources, within the Coast Guard and industry, which are responsible for correctly identifying a cargo to be carried in the marine mode. Mr. Snyder said that the Subcommittee discussed this responsibility with the personnel who are assigned this duty, including shippers, manufacturers, flag states, carrier technical and commercial personnel, and the Coast Guard. The Subcommittee found that some of the means to increase the use of proper cargo names can be found in the Coast Guard's classification process and updated CFR tables, the MSC Lists of Authorized Cargoes; the Captain of the Port Officer in Charge Marine Inspection (OCMI)'s inspection and auditing of vessels, the Captain of the Port (COTP) facilities branch's approval and inspection of facilities, and development of response and operations manuals which list all cargoes transferred with the proper cargo name.

Mr. Snyder explained that the Subcommittee was also asked to identify those occupations that may be directly affected by possible hazards associated by the use of incorrect cargo names. They observed that facility personnel, ship crews, barge tankerman, tow boat personnel, chemical inspectors, shippers, Coast Guard personnel, and members of the public could be affected by the use of incorrect cargo names. Mr. Snyder added that anyone who is in the wrong place at the wrong time could be affected by the use of incorrect cargo names.

Another Subcommittee charge was to identify the present inspection and enforcement process used within the industry to ensure appropriate cargo name application and documentation. Mr. Snyder said that the Subcommittee found that the current process captures the vessel cargo authority documentation and facility requirements in the Operations manual. The Subcommittee does not recommend additional enforcement measures, but notes that current enforcement is inconsistent and does not focus on proper cargo name usage. This omission is primarily caused by a lack of understanding of the classification process, scattered and out-of-date regulations, and incomplete terms and definitions in the regulations.

The Subcommittee also examined the training medium used by Coast Guard and industry to educate and inform personnel on the importance of recognition and usage of proper cargo names, and to determine if this training could be expanded. Mr. Snyder relayed that they observed the cargo classification process and identification procedures are primarily learned through on the job training. He said that there are no existing regulatory requirements for cargo name identification and classification training for marine personnel, whether they are under Coast Guard jurisdiction or not. Therefore, the Subcommittee recommends that training be adopted for marine industry personnel in this industry. Mr. Snyder described training including general awareness of the regulations, job-specific regulations, personnel safety, and incident response and prevention. As one of the regulatory recommendations, the Subcommittee wrote that they felt that marine industry personnel, other than those licensed or documented personnel, need training. DOT (49

CFR) prescribes training for all personnel in contact with hazardous materials based on their responsibilities, which is the model the Subcommittee used for their training recommendations.

Mr. Snyder explained that the Subcommittee was asked to review the current classification system to determine if modifications or enhancements are required. The Subcommittee observed that the current classification process is not well known or user friendly and lacks accepted or published operational standards. He indicated that the Subcommittee recommended that a formal process be established and that these performance standards be published in a NVIC. The NVIC should incorporate, by reference, the requirements for IMO International Bulk Code (IBC) classification until this process is added to existing Coast Guard regulations. It should provide a written method for submitting classification data and allowing shipper self-certification, possibly using a model such as that of Certifying Entities, although allowing qualified companies to self classify their cargo might also be acceptable. The NVIC should also include cycle time performance standards for classification review and revision to the regulatory chemical data tables. To supplement these, a "Bulk Liquid Cargo Finding Aid" should be developed in lieu of a Supertable. The "Bulk Liquid Cargo Finding Aid" would be available in hard copy and on the Internet, and could be updated regularly. This aid, Mr. Snyder continued, would list all of the cargoes by Authorized Marine Cargo Name (MARCAN) and include information such as the CHRIS Code, synonyms, trade names, flammability grade, pollution category (MARPOL), regulatory cite, IMO chapter, EPA RCRA Waste Number, and UN Number. Mr. Snyder said that the Subcommittee has formed a working group and it will proceed with this task after receiving Coast Guard and CTAC approval.

The Subcommittee was asked to develop recommendations including an appropriate mix of regulatory changes. Mr. Snyder said that the Subcommittee looked at around ten regulations and developed a general consensus about where regulatory changes would be appropriate. He explained that they observed that the regulations need to be more complete and that, in some cases, definitions for terms must be created. He added that the regulations for bulk marine transportation should be clarified and more completely cross-referenced, and that a chain of responsibility should be developed. As an example, the Subcommittee recommended that the shipping paper be revised to include the following information: cargo name, product name, reportable quantity if it is a hazardous substance, CHRIS code, UN number, compatibility group, any exceptions, and the shipper's emergency contact. The Subcommittee feels that the information they propose listing on the shipping paper would be helpful in a response situation. He added that the emergency contact information must be included and should be the contact information for 24 hour and 7 day a week use, similar to that required by DOT.

Mr. Snyder explained that the Subcommittee was charged with developing recommendations for improvements in current training requirements. He said that the Subcommittee believes that current training is insufficient in addressing the cargo classification process and the use of proper cargo names, and that there is a lack of training for personnel other than licensed or documented personnel. The Subcommittee believes that other marine personnel need training as well, depending on their responsibilities. The Subcommittee has reviewed the DOT requirements in 49 CFR and is recommending regulatory changes to model those regulations.

The Subcommittee was tasked with developing and enhancing promotional activities to foster awareness of the cargo classification process and cargo name usage including potential solutions. Mr. Snyder related that the Subcommittee observed that the classification of new cargoes, and the use of the cargo name on documentation, is generally known through on-the-job training. Downsizing within the industry has resulted in untrained and less-experienced personnel taking over these responsibilities. The Subcommittee would like the Coast Guard to consider forming a

Cargo Classification Knowledge Working Group charged with making presentations to associations, such as the Hazardous Material Advisory Council (HMAC) and the Chemical Carriers' Association (CCA), and at events such as Coast Guard Industry days. Written articles elaborating on the process of cargo classification and name usage should be published in hard copy and on the USCG website. These efforts, Mr. Snyder explained, will provide an interim arrangement to publicize these issues until more formal training is adopted.

The Subcommittee observed that the CHRIS is not comparable to the DOT Emergency Response system, which is regulated under 49 CFR and the IMO International Maritime Dangerous Goods (IMDG) Code. The Subcommittee recommends that CTAC investigate this difference further as a separate issue and consider aligning with the ongoing work under the IMO. Mr. Snyder explained that the DOT system recognizes every hazardous material, unlike the CHRIS system. Another thing the PCN Subcommittee observed, he said, is that members of industry involved and governed under DOT regulations have an awareness of their emergency response procedures, however, CHRIS Code knowledge and expertise is limited primarily to the Coast Guard.

In conclusion, Mr. Snyder said that to improve the current cargo classification knowledge, as well as to improve the correct use of cargo names, the Subcommittee asks CTAC and the Coast Guard to endorse and support the following initiatives:

- Adopt industry-wide training for bulk marine employees, similar to DOT required training.
- Endorse the development and maintenance of the "Bulk Liquid Cargo Finding Aid".
- Endorse the revision of relevant regulations to clarify the need for and use of proper bulk cargo names.
- Adopt cargo classification standards to better serve industry and the Coast Guard.
- Consider the adoption of a system that allows shippers to classify cargoes and present them to Coast Guard for timely approval and shipping.
- Consider presenting workshops and training sessions that explain cargo classification and name use requirements to enhance industry's understanding.
- Consider harmonizing CHRIS with the DOT emergency response system.

Mr. Snyder finished by thanking all of the Subcommittee members who attended, participated, and greatly contributed to the success of the Subcommittee's work. He said that they hope to have the final Subcommittee report ready for the next meeting. Mr. Snyder noted that the Subcommittee had met sixteen times in the last thirteen months, working with a task that became more complicated as it was being investigated, but that grew clearer with each meeting. He said that this Subcommittee has been the most interesting and challenging one that he had served of and the work process added greatly to the knowledge and skills of all of the participants. He submitted a final observation, that having one of the semi-annual CTAC meetings in Houston could increase attendance. He thanked CTAC for the opportunity to work on this group, and to work with some of the best people in the industry.

A copy of the PCN Subcommittee Report is attached as Enclosure (3) for information.

RADM North congratulated both Subcommittees for the comprehensive work they have done on their assigned tasks. He commented, in regard to the PTP Subcommittee report, that he had been onboard a German Flag Ship that used an alternate watch schedule, and had observed that it was practical and seemed to work well. Regarding the PCN Subcommittee report, RADM North noted that, during his career, he had served mainly in field offices and did some chemical response work, so he understands the importance of knowing what substances are involved in

developing an adequate response. He indicated that the problems the Subcommittee identified have been problems for a long time and that they had offered many good solutions.

Ms. Jenniffier Shields Hawes of Ecology and Environment asked what the next step would be for the PCN Subcommittee.

Mr. Snyder explained that the Subcommittee would continue by starting to finalize their recommendations and working on the regulations. He indicated that they are going to examine parts of existing regulations that deal with chemical classification, transportation, and transfer and make recommendations on how they should be revised. Mr. Snyder added that the Subcommittee would continue working on the cargo classification process and possibly have a working group meet in Washington. The Subcommittee has asked that LT Keffler of the Marine Safety Center and Curtis Payne of the Hazardous Materials Standards Division to be part of this working group. Also, he said, the Subcommittee plans to examine training requirements, and he requested feedback from CTAC and the Coast Guard on that matter.

Ms. Shields Hawes commented that she noticed the disconnect between land-based and marine emergency response communities.

Mr. Snyder explained that he thought a separate subcommittee should handle the differences in emergency response. CDR Corbin said that forming another Subcommittee would be considered. He commented that, with respect to the Bulk Liquid Finding Aid, an option is to revise the current NVIC, which is a non-regulatory solution because the NVIC acts as a guideline. He said that his staff and the Subcommittee would do the work on the NVIC.

Mr. Philip Rynn of the American Bureau of Shipping (ABS) said that the current issue of the *Proceedings* magazine includes an excellent start for a number of issues before the PCN Subcommittee. He stated that he thought it is really important to get the information from the Subcommittee to the rest of the industry, especially the people who are actually booking the cargoes.

Mr. Snyder replied that the PCN Subcommittee's regulatory draft is based on the DOT model that includes all personnel in the training requirements. All personnel are trained in general awareness or job-specific safety training, ensuring that somebody in the company has the basic information, including correct cargo name and regulatory information.

Mr. John Prokop of the Independent Liquid Terminals Association commented that the cargoes cannot be transferred without cargo-related information, and that the need for this information will eventually go back to the one person who knows. Currently, there is not a definitive path to obtain cargo information. Mr. Prokop said the process requires cooperation. He continued that a regulatory requirement, which denies transfers unless the proper information is provided, would directly affect the carriers and facilities, and compel them to cooperate. He added that another difficulty is that many cargoes are known by non-standard names.

Mr. Snyder agreed on the need for cooperation and to show that this issue is important. He added that there is a problem because of the difference between cargo names used and the regulatory names, despite the fact that regulations require the cargo to be named by the Coast Guard cargo name. This if further complicated because the cargo name given in 49 CFR does not always correspond to the cargo name given by the Coast Guard.

Mr. Prokop commended the Subcommittee for a job well done in working on a long-standing problem.

Ms. Margaret Doyle of the Chemical Carriers Association asked how the Subcommittee proposed handling the training it recommended.

Mr. Snyder answered that the training would be mandated by regulation, with the responsibility on the employer. In the interim, he said, presentations could educate industry about the need for training and decrease confusion about the current regulations.

Ms. Doyle asked how these regulations would affect the new CHRIS. She recalled that the new CHRIS, as explained by Dr. Alan Schneider at the fall CTAC meeting, would be able to change, with updates available on the Internet.

Mr. Snyder replied that he is not an expert on CHRIS, but he did not know that every mixture would have an individual CHRIS code. Mr. Snyder mentioned that the Hazardous Substance Response Plan requirements apply to the Environmental Protection Agency's (EPA's) list 84 hazardous substances that are transferred in bulk. Any mixture with greater than 10% of any of these 84 substances requires a hazardous substance response plan, but might not have a CHRIS code.

CDR Corbin explained that the Hazardous Substance Response Plan Rulemaking announcement has not yet appeared in the Federal Register. This prohibits discussion of its contents because of legal rules, but the Notice of Proposed Rulemaking should appear in the Federal Register very soon.

Mr. Book thanked the Subcommittee, and challenged others to become involved in Subcommittee work.

After lunch, Mr. Book stated that a primary and alternate candidate had been nominated to serve on RADM North's committee. Mr. Rodgers and Mr. Varley were nominated as the primary and alternate candidates, respectively. The nominations were seconded, voted on, and approved.

7. OTHER BUSINESS

   a. Chemical Naming – A European Perspective

Mr. David Barrow of Lloyd's Register, began his presentation by thanking CTAC for the invitation to do a presentation and reviewing the agenda for his presentation, which would include European resources for chemical names and a demonstration of the LR CHEMSHIP program.

As discussed this morning, Mr. Barrow said, bulk chemical transportation is a very complex industry. There are many different modes of transport, including ships, coastal vessels, barges, road tankers and rail tankers. Coupled with this, he added, are the large number of stakeholders including manufacturers, shippers, governments, flag states, port state control, and classification societies. To demonstrate the industry's complexity, Mr. Barrow gave the example of a chemical that was manufactured in mainland Europe. The chemical was shipped by rail or road to the inland waterway in Europe and then put onto a deep-sea ship in Rotterdam. At this point, the chemical crosses the Atlantic to Houston, where it is put onto barges, and then onto road or rail network.

It's very complex system, Mr. Barrow said, and each stakeholder generally has its own set of regulations and way of naming chemicals. As an example, he explained that Methyl Alcohol, which is listed in IBC Code Chapter 18, is listed in other regulations as Methanol, Alcohol C-1, Cabinol, Wood Alcohol, and Methyl Oxide. An additional example is Sodium Hydroxide Solution, which may be listed as Caustic Soda, Lye, or Caustic. He indicated that these two chemicals are just very basic examples of the naming problem.

Mr. Barrow explained that, in Europe, the primary regulations referred to are the IBC Code, BCH Code, Marpol 73/78 Annex II, and Lloyd's Register Rules for the Construction of Chemical Tankers, which are based on the IBC code. He said that until 3 or 4 years ago, the IMO publications, IBC, BCH, Marpol, included lists of cargoes. The IMO dropped the cargo lists from BCH and Marpol, and included a cross-reference to the IBC Code, Chapters 17 and 18, so that now the cargo lists are identical.

Mr. Barrow continued that other prime sources for the names of chemicals are MEPC.2 Circular 4, Index of Chemicals listed in the IBC Code, USCG Chemical Data Guide, CHRIS Codes, IMDG Code, CFR 153 Table 1, and CFR 150. Another source of information is the national administrations, such as the UK Marine Coast Guard Agency, which have their own interpretation of the IMO requirements and their own regulations.

An additional set of rules and regulations, specifically for the passage of Hazardous Chemicals in European Inland Waterways, are the Accord Europeen Relatif au Transport International des Marchandisses Dangerous par Vie de Navigation (ADN) and the ADNR, which deals specifically with the River Rhine. These regulations, issued by various working parties of the Central Rhine Commission (CCNR) and their German equivalent the ZKR, were synchronized in 1997/1998, but they still have some trans-shipment problems, which may lead to naming problems. Mr. Barrow indicated that he was very encouraged by the work that the PCN Subcommittee was doing to correct this problem.

Mr. Barrow explained that Lloyd's Register takes several steps if a cargo is not listed on a vessel's Certificate of Fitness (COF). First, he said, they look for the cargo in the IBC code Chapter 17 or 18. If it is listed, an addendum to the Certificate of Fitness is issued indicating that the vessel may need to be surveyed. With the LR CHEMSHIP program, Lloyd's Register is able to generate maximum cargo lists, which let the owner know exactly what cargoes their ship can carry. A more common instance, Mr. Barrow explained, is that the cargo is not listed in the IBC Code Chapter 17 or 18, so the next step is to check MEPC List 1. If the cargo is listed there, we issue an addendum. If it is not, we check List 2, for NOS entry. If it has the NOS on the COF, there is no problem, and no further action is required. If the NOS is not on the COF, the cargo may not be carried unless survey proves other wise. If the cargo is not listed in List 2, then List 3 is checked. If the cargo is in List 3, we'll issue an addendum. If not the cargo is not listed, Lloyd's Register lets the shipper, owner, or manufacturer know that they require an assessment, and this is where the work of the certifying body ends.

Mr. Barrow explained that Europe and the U.S. seem to be suffering from the same problem with chemical names, and that he appreciates how the PCN Subcommittee is being proactive about addressing this situation. Every couple of years, he said, the IMO makes amendments to Chapter 17 and 18 of the IBC Code. Lloyd's Register is a member of the Bulk Liquid and Gases (BLG) working group at IMO, so they are notified of the changes through IMO MSC papers, and can inform owners about any changes, especially carriage requirements, and update their LR

CHEMSHIP database. Then, he said, each LR CHEMSHIP file is re-run and each COF is re-issued. With the adoption of LR CHEMSHIP, he said, this is a very straightforward process.

The solution to this problem, Mr. Barrow said, is the creation of a unified naming system of chemicals for transportation. He acknowledged that this is a huge task, but it is a task well worth doing. The present confusion in chemical names, he said, can be dangerous to personal safety and the environment as well. He added that a uniform system would reduce delays to ships, and costs to owners.

Lloyd's Register issues certificates for approximately 28% of the world fleet of chemical tankers. This is quite a high number of vessels and part of the reason why we developed LR CHEMSHIP. LR CHEMSHIP produces maximum cargo lists, as part of the COF, which list exactly which cargoes a vessel can carry. Mr. Barrow explained that this information is useful in the vessel design and construction stage, as well as when the vessel is in service. In addition, he said, if an owner or operator wants a vessel to carry a specific cargo, the LR CHEMISHIP program could be run backward to show the exact IBC code requirements for that cargo. Lloyd's Register is also developing a LR Dangerous Goods program, which will deal with soluble and packaged cargoes listed in the IMDG code.

Mr. Barrow demonstrated LR CHEMSHIP, which generates the maximum cargo lists by comparing the vessel parameters entered and comparing them to the IBC requirements for specific cargoes.

A copy of this presentation is included as Enclosure (4) for information.

Mr. Snyder expressed interest in having representatives from Lloyd's Register at a PCN Subcommittee meeting. Mr. Barrow and Mr. Sudheer Chand of Lloyd's Register both agreed that it would be a good idea.

Mr. Book reminded attendees that they could see the LR CHEMSHIP or Dangerous Goods programs after this presentation.

b. AWO Responsible Carrier Program

Ms. Jennifer Kelly, Vice President-Government Affairs for American Waterways Operators (AWO), expressed her happiness at being able to talk to the committee about the AWO Responsible Carrier Program. She explained that AWO is a national trade association for the tugboat, towboat and barge industry. It has about 375 member companies that operate in all segments of the domestic marine transportation business. Although the membership is diverse, she said, the one thing that all of the members have in common is a commitment to safety and environmental protection. This is an area that the chemical industry has led the way in, she commented, and that the tugboat, towboat, and barge industry has also tried to embrace that commitment.

Ms. Kelly explained that this commitment led directly to the development of the Responsible Carrier Program. The Responsible Carrier Program is a practice for AWO companies based on the philosophy of "saying what you do, doing what you say, and proving it." She said that the program, which is intentionally similar to ISM Code requirements, establishes requirements for operating principles, practices, and guidelines that cover three major areas: management and administration, vessel equipment and inspection, and human factors.

The management and administration requirements cover vessel operating, safety, and environmental policy and procedures, as well as emergency response, notification, and reporting. The vessel equipment and inspection requirements include two separate parts for inland and coastal towing vessels because their operating environments are different. These requirements include hull, rigging, towing gear, firefighting and lifesaving equipment, and environmental controls. Ms. Kelly said that the final section, the human factors section, covers safe manning levels, work hour limits, and function-based training onboard the vessel.

Ms. Kelly repeated the Responsible Carrier Program philosophy of "saying what you do, doing what you say, and proving it." In terms of "proving it," she explained that all members of the program would undergo a third party audit conducted by an AWO certified third party auditor by January 1, 2000.

Ms. Kelly added that the industry represented by AWO came later to the same realization that the chemical and manufacturers industry had; that safety is not the government's job, it is the job of industry. She said that industry, as the people who know the business best, has the most ability and responsibility to ensure that they are operating safely and that the programs and safeguards are in place to see that it happens. In April 1994, AWO began development of the Responsible Carrier Program when they put together a task force of diverse member companies and asked them to develop a consensus safety program to provide a framework to raise the level of safety performance for any company.

The Responsible Carrier Program employs objective standards that any company in our industry can follow. Ms. Kelly added that its emphasis on policies and procedures are meant to recognize the diversity in our industry. She described the program as aimed at helping any company, no matter the safety practices they already have, to improve their safety level.

Ms. Kelly said that the AWO board unanimously approved the Responsible Carrier Program in December 1994. They established an initial 3-year implementation period for the program, during which a staff position was added to provide hands on assistance to the members for implementing the program. She said that as a first phase approach, AWO adopted a self-certification process to compliance, in which a member company's CEO or senior marine executive could certify the company's compliance with the program. Ms. Kelly indicated that AWO recognized this as an interim step until the concept of the third party audit for the program was developed in October 1996.

Over the next year, Ms. Kelly said, another member task force, chaired by Mr. Book, developed the details of the audit. The audit not only provides public assurance, but also is valuable to the member companies themselves by telling them where their safety programs could be improved.

Ms. Kelly reiterated that by January 1, 2000, all current members of AWO must have completed their audits. The audit consists of a management and a boat or towing vessel audit based on the provisions of the Responsible Carrier Program. The process begins, she said, when the AWO member selects an auditor or combination of auditors from the approved list. She added that AWO has established a member accreditation board, to oversee the certification of auditors, who undergo an additional 12 hours of orientation in the Responsible Carrier Program.

Ms. Kelly described the vessel audit, which covers about 10% of a company's fleet, chosen by the auditor to be a representative sample of equipment. The audit is considered complete only when all non-conformances have been corrected. She said that the expectation is that with the auditor's advice, the member will be able to become compliant and be certified. New AWO

members have two years from the date they join to be in compliance, and AWO provides a variety of tools and personalized assistance for them. Ms. Kelly added that re-audits would be conducted on a 3-year cycle.

The Responsible Carrier Program, Ms. Kelly said, is very consistent with the philosophical underpinnings of the ISM Code and the chemical manufacturers industry's Responsible Care Program. The objective of the program is to promote continuous improvement, encouraging companies to develop documented policies and procedures, tailoring those requirements to the realities of your business, and recognizing that it is up to us to ensure that we're operating safely. One difference is that unlike the ISM Code, the Responsible Carrier Program includes specific equipment requirements because it applies to a particular group of vessels.

Finally, Ms. Kelly said, that in April 1998, AWO's members took a step reflecting the culture change in industry and voted to make compliance with the Responsible Carrier Program a condition of membership in AWO. She believes that this is a very strong statement of commitment from the members. The requirement did result in a small number of member losses, because they were not willing to make the commitment.

Ms. Kelly thanked CTAC for the opportunity to speak about the program and AWO. She said that AWO looks toward the chemical transportation and manufacturing industry as leaders and partners as we continuously improve the safety of our operations.

Mr. Ron Stokes of Mobil Chemical asked if they had found that companies who were not members of AWO were interested in the Responsible Carrier Program.

Ms. Kelly replied that she has anecdotal information that other companies have indicated that they might want to be members, and that the Responsible Carrier Program is something they'd like to learn more about and try to do. She added that AWO has had an encouraging response from shippers and insurers about the program. AWO tries to continue the input from the shipping industry through the auditor accreditation board, which evaluates the program's administration and recommends improvements when necessary.

Mr. Snyder asked if there was anything in the Responsible Carrier Program that could be connected to the PCN Subcommittee and the issue of proper cargo name usage.

Mr. Book replied that the Responsible Carrier Program is concerned mostly with management and personnel issues.

c. Harmonized Portable Tank Design Criteria

Mr. Bob Richard, Assistant International Standards Coordinator for Hazardous Materials Safety Research and Special Programs Administration for the DOT, thanked the committee for the opportunity to speak to them about portable tanks.

Mr. Richard explained that the UN Committee of Experts on the Transport of Dangerous Goods is basically the parent body of the Hazardous Materials Safety Research and Special Programs Administration, which is fortunate because it allows for international harmonization of regulations. The UN Committee publishes their recommendations on the transport of dangerous goods in the "Orange Book", which countries are encouraged to adopt as their transport regulations. These recommendations, he said, are also the basis for IMDG Code, International

Civil Aviation Organization Technical Instructions (ICAO TI), European Road and Rail Regulations, and the 49 CFR 100-180.

Packaged form, Mr. Richard said, as defined by SOLAS Marpol Annex III, is the forms of containment specified for harmful substances (dangerous goods) in the IMDG Code (i.e., portable tanks, intermediate bulk containers, packagings). Mr. Richard defined a portable tank as a multimodal tank with a capacity greater than 450 liters, typically around 20, 0000 liters, consisting of a pressure vessel which may be mounted in an ISO frame and which is fitted with service and structural equipment. There are various types of portable tanks defined by U.S. DOT (IM011, 102, and DOT 51), IMO (IMO Types 1, 2, 5 & 7), Marine Portable Tanks, as well as non-specification portable tanks which are not required to meet all of the details listed in the regulations. Mr. Richard said the reason for harmonization is due to the many different types of tanks, the differences of which are causing some problems in industry.

The Orange Book is currently in its 10th revised edition, and includes new portable tank design and construction requirements, incorporated in the 30th amendment, IMDG Code. In December, Mr. Richard said, the 11th revised edition will be finalized, and it will include Rationalized Approach for Portable Tanks and a series of codes, called T Codes. These revisions will be incorporated in the 30th Amendment, IMDG Code. Mr. Richard said that this approach examines all types of substances allowed in the lists of dangerous goods and what types of tanks should be allowed according to the substances carried.

Mr. Richard said that the IMDG Code is going through a major reformatting change so that all of the regulations will be formatted in the same manner making it easier to update and use, thus reducing errors. The reformatted code, he added, will include the new portable tank requirements and the rationalized approach. These requirements go into effect on January 1, 2000, Mr. Richard said, and after that date, all tanks must be built to the new requirements. He said that the old tanks, which pass inspections, could be used indefinitely. In addition, portable tanks must conform to the rationalized approach by January 1, 2010.

The new items in these revisions include changes to requirements for minimum shell thickness, which is less stringent due to the harmonization with international standards. Mr. Richard said that a rail impact test was added which requires a tank to be impacted at a force equivalent to 4 Gs to ensure shell attachment to the frame. Other changes, he said, include the test pressure, design temperate range, and leakproof tests.

Mr. Richard said that the UN is also looking at the multi-element gas container. He described these containers as basically 20 foot long cylinders. Currently, there are not any international provisions for these containers. Requirements for multi-element gas containers will be incorporated at the same time as the requirements for the compressed gas cylinders because there is a large disparity on how they're manufactured in Europe, the U.S., and Canada. At this time, Mr. Richard indicated, there is a Notice to Public Rulemaking (NPRM), HM220, which addresses changes to gas cylinder requirements and attempts to harmonize the requirements.

Mr. Richard said that the UN/IMO Future Work Program is also looking at the rationalization of quantity limits, harmonizing shipping papers and documentation, segregation for cargo transport units (CTUs), placarding for mixed loads and small quantity exemptions, infectious substances, toxic by inhalation (TIH) materials and harmonization, environmental criteria based on OECD criteria, and standardizing Emergency Response requirements.

One of the more recent documents published, Mr. Richard said, was HM-215C Final Rule. It aligns 49 CFR with the 10th edition IMDG Code Amendment 29 and ICAO 1999-2000 edition. Some of the revisions made, he said, were making the list of marine pollutants consistent with Amendment 29, amending the HMT Table, changes to the Stowage Requirements, and revised filling requirements for portable tanks.

Mr. Richard said that the Hazardous Materials Safety Research and Special Programs Administration actively seeks public comment on its international activities through public meetings held before and after meetings, requests for comments published in the Federal Register, and its Internet home page, http://hazmat.dot.gov.

A copy of this presentation is included as Enclosure (5) for information.

Mr. Stokes asked about new testing requirements for the tanks, including rail impact tasks. Currently, he commented, the tanks are required to have AER certification and marking on tanks, he asked if the new tests would eliminate these requirements.

Mr. Richard replied that with AER certification, if the tanks don't have a rail line interchange the tanks to not have to meet rail impact requirements. The problem that they found was that AER, Transport Canada, and other country rail impact tests did not match. Transport Canada developed the new standard test, which is very reproducible, and can be done in a laboratory. Their recommended test will be voted on. Mr. Richard added that tanks tested previously should be able to pass the new test.

Mr. Stokes expressed his concern that the public does not hear about some of the issues the DOT is working before it is too late to comment. He asked if there was a way to notify the public more quickly about these issues.

Mr. Richard replied that the RSPA conducts public meetings to solicit input before and after international meetings, but that he realizes that because of scheduling conflicts many people cannot attend. He indicated that they would consider enhancing their webpage to address the issues so that more people can comment and be involved.

d. Certificate of Inspection – Pilot Program

LT Timothy Meyers of the Hazardous Materials Standards Division presented an update on the Tankbarge Certificate of Inspection (COI) Pilot Program, which was established based on PTP Subcommittee recommendations.

LT Meyers explained that the PTP Subcommittee was tasked with assessing the value of the written requirements included on the COI for chemical tank barges and determining the usefulness and understandability of these requirements. They were also asked to recommend improvements for the COI where necessary. The purpose of this work, LT Meyers said, was to improve the COI for tank barges by removing unnecessary information and placing it in better-suited documents. The result of this work could expand the amount of information available to the Person in Charge (PIC), and reduce the duplicative efforts for cargo entry. This program is based, like all of the PTP Subcommittee recommendations, on the principle of "Honor the Mariner".

The recommendation from the PTP Subcommittee, LT Meyers explained, was that tank barge COIs be shortened to two pages. Current COIs typically are eight to ten pages long because of

the attached chemical listings. This change would be accomplished by removing several endorsements and placing them in the Marine Inspection Special Note (MISN) data field in the Coast Guard database. Cargo specific information is developed and clarified in Marine Safety Center's (MSC's) existing "Bulk Liquid Cargo Authority/Conditions of Carriage Documents for Particular Barge(s)." The applicable MSC document should be referenced by date issued in the "white space" on the COI, significantly reducing its size. LT Meyers said that the content of these MSC documents should be placed on the barge by the owner/operator and be readily accessible and familiar to the PIC. He added that this would eliminate some of the duplicative work by MSC and the Marine Safety Offices (MSOs). This conversion would take place over a 2-year period.

LT Meyers said that the one-year COI pilot program will be based at MSO New Orleans, which will be the issuing authority for the certificates. American Commercial Barge Line will provide a 100 barge fleet, including a mix of oil, chemical, and VCS barges, for the pilot program. The MSC will generate the list of authorized cargoes to be placed in a separate document. Upon completion of the program, LT Meyers said, it will be evaluated based on input from barge and facility tankerman, PICs, local Coast Guard field units, MSC, and other people who came into contact with the new COI. The results of these findings will be presented to CTAC, which will initiate regulatory change as necessary.

The timeline for these events, according to LT Meyers, is that the cargo authority database will be completed by MSC this spring. Detailed implementation procedures, evaluation tools for the pilot program, and barge registration will take place in summer 1999. In fall 1999, he continued, MSC approval for the pilot program will be obtained, the Federal Register Notice will be published, and the program will begin.

A copy of this presentation is included as Enclosure (6) for information.

Mr. Rynn asked if the one-year trial of the program should include a fleet not in the AWO Responsible Carrier Program to see if they had different obstacles.

LT Meyers said that was a good idea, but explained that they wanted to limit the number of barges participating in the pilot program for the purpose of having a tight control to determine the effectiveness of the new COI's. Mr. Book commented that most of the inland barges are in the AWO Responsible Carrier Program. He also said that of the 100 barges, they would get a cross-section, including complex barges, dedicated barges, vapor control barges, as well as other types of barges.

e. Vapor Control Systems Rulemaking Status

Ms. Sara S. Ju of the Hazardous Materials Standards Division presented an update on the amendment to the regulations for the Marine Vapor Control Systems (VCS).

Ms. Ju explained that an amendment to the regulations is required because of new environmental regulations issued in June 1990. These requirements apply only to vessels controlling vapors of fuel oil, gasoline, and benzene and are intended for single systems. Since that time, she said, federal and state governments have created more requirements that apply to almost all organic cargoes. The amendment would update the regulation to cover these new requirements.

Another reason for the amendment, Ms. Ju explained, is that states now require barge cleaning facilities to control vapors. NVIC 1-96 includes recommended standards for these facilities. In

addition, new VCS technologies have been developed and systems are more complicated, the amendment would accommodate new technologies. Also, she noted, there are ambiguities in regulations that need to be clarified. Finally, the regulations need to be brought up to date with newly developed Coast Guard policies and guidelines.

Ms. Ju recalled that in September 1996, CTAC established the VCS Subcommittee, which formed four working groups under the direction of Mr. Book. She said that the Subcommittee held 14 public meetings over a year and a half and reviewed regulations and existing Coast Guard policies. The Subcommittee developed 53 recommendations and 2 performance standards that were submitted in reports in September and March 1998. Ms. Ju said that in June 1998, the Subcommittee, in response to a request, provided additional information to supplement their recommendations. She explained that together these recommendations formed the technical basis for the rulemaking project.

Ms. Ju stressed that the regulatory changes she was describing were proposed only by her office, the Hazardous Materials Standards Division, and have not been reviewed or approved by other Coast Guard offices or the chain of command. She added that there is no guarantee the revisions she describes will appear the final rule or draft rule.

The proposed amendment to 33 CFR 154E and 46 CFR 39 would apply to vapors of all bulk liquid cargoes, excluding liquefied flammable gases. As a result of this change, Ms. Ju said, the amendment would update definitions to be general for all cargoes; address toxic cargoes, polymerized cargoes and compatibility; generalize piping temperature, vapor growth rate and sensor/analyzer set points; and exempt non-combustible/flammable or high flash-point cargoes from fire protection. She added that the amendment would incorporate safety standards for VCS's at barge cleaning facilities by including the information from NVIC 1-96 in new sections of 33 CFR 154E and 46 CFR 39.

Ms. Ju explained that the amendment would include new VCS Technologies. Some examples of changes which might be made are adopting industry standards for FAs and installation of DA's, allowing base loading methods for certain types of VCS, and allowing facilities to use anti-flashback burners with other safety methods as an alternative to liquid seal. The amendment may provide standards for cargo line clearing or pigging, extend the pre-transfer testing period from 24 hours to up to 2 weeks, and propose the use of flexible hose, QDC, and multi barge loading operations.

Ms. Ju continued that some of the ambiguities the amendment will attempt to clarity are the fire protection requirements at VCS outlets, low-pressure sensor requirements, and design requirements for liquid seal. The amendment could also clarify VCS connections to other facility VCS and define the requirements to vapor balancing systems. She added that, for tank vessels, the amendment could clarify the maximum pressure ranges and the capacity of P/V Valves.

To incorporate Coast Guard policies, Ms. Ju said that the amendment could incorporate policies for other non-flammable and combustible cargoes and make exemptions applicable to other facilities. The amendment could also compose guidelines for certifying entities, streamline the certification process, and add a new appendix to 33 CFR 154 with references for MESG and MOCC to help with chemical information.

Ms. Ju explained that the estimated project schedule was approved on February 19, 1999, which is an internal first step in the process. For a project of this magnitude, she said, the Coast Guard allows about nine months for completion of the project. The earliest the Notice of Proposed

Rulemaking (NPRM) would be published is in fall 1999 followed by a 90-day comment period. She reminded CTAC members that they may not recognize the final rule because of changes in format and the addition of tables.

She concluded by thanking CTAC for their effort in reviewing the regulations and preparing recommendations.

A copy of this presentation is included as Enclosure (7) for information.

f. 6 CFR 151 Rulemaking Status

Mr. Tom Felleisen of the Hazardous Materials Standards Division presented an update on the re-write status 46 CFR 151, the regulations for barges carrying hazardous materials in bulk.

Mr. Felleisen said that as soon as the work plan for this project is approved and signed-off on, the Advanced Notice of Proposed Rulemaking (ANPRM) will be put into clearance immediately. The ANPRM, he said, is very far along and could be published at the end of April. The general nature of ANPRMs is to solicit comments on all parts of the proposed rule and to explain the general intentions of the Coast Guard on the matter. As soon as Admiral Skor signs it, the Administrative Procedures Act prohibits discussion of the issues in the proposed rules. The proposed rules, Mr. Felleisen said, were discussed to a fuller extent at last September's CTAC meeting. He added that the Coast Guard legal office has requested CTAC to reconfirm its recommendations on the ANPRM at their next meeting.

In addition, Mr. Felleisen said that the ABS program was not very far along because of intervening circumstances. He indicated that the program is of key interest to both the Coast Guard and ABS.

g. Best Oil Spill Response Practices and New Concepts

Captain (CAPT) Larry Hereth, Chief of the Office of Response, explained that his office has developed a tool to measure the success of the response performance. This initiative was started, he said, for a number of reasons. The first step in the evaluation process is to decide what to measure and choose an outcome. The Coast Guard's goal is to "minimize the consequences of pollution incidents." The consequences we are looking at are consequences to those items of national interest—people, environment, property, and the economy.

Next, CAPT Hereth explained, the functions a response organization should carry out were defined. The Coast Guard has adopted the Incident Command System (ICS) as the spill management model to get a shared understanding of what we want a response organization to do. There are many complex things, he explained, that overlap during a response, which is another reason to reach a consensus on best response.

CAPT Hereth explained that to measure the response to an event, the Coast Guard will use a survey that includes all of the functional areas involved in a response. These functional areas include the public, stakeholders, responders, and investigators. This survey will be focused only on significant spills.

CAPT Hereth described the survey form, in which all of the response functions have become outcome-based statements of success, or key business drivers. He defined key business drivers as things that have to go right for the operation or response effort to be successful and to be

perceived as successful. The survey had 53 positive statements of success that capture the things that our office considers important, and asks the person completing the survey to rank these items on a scale from one to seven.

CAPT Hereth said that the Coast Guard has been trying to solicit comments on the survey, and is still working on the survey, which is in the prototype stage. He asked for feedback and comments from CTAC. He also issued CTAC a challenge, to apply the survey, which is focused on oil spill response, to the chemical transportation realm. He believes that the items that comprise a successful oil or chemical response will be similar.

After all questions have been clarified, and comments received, the survey will be implemented throughout the Coast Guard, and used formally for the larger oil spills. CAPT Hereth cautioned that the implementation of this tool will be very conservative. The results of this survey should not be misconstrued, especially because it will take at least 5 years to develop the norm for the response.

CAPT Hereth added that the survey could be used before, during events, as well as after events. Before an event, the survey can be used for alignment because it provides a common understanding of what response organizations should deliver for a successful response. CAPT Hereth used the example of people seeing a house to explain perceptions of response. Each person approaching the house sees something different. Once we agree on the expectations and agree to deliver the outcomes, he said, preparedness efforts will be aimed at a defined event. The survey provides a clear understanding of what we expect in a response through the 53 statements.

During a response, the survey can act as a job aid or a checklist for the crisis manager or spill manager. CAPT Hereth explained that the survey has gauges for incident status and key business driver indicators that could help the crisis manager to understand if progress is being made and if the consequences are being minimized.

The incident status information is standard crisis manager stuff carried out by an ICS organization. The survey defines the problem and what is being done to resolve it. The new idea introduced by the survey, CAPT Hereth explained, is the key business divers. They focus the survey on doing those things that will minimize impact to items of national interest. The survey is segmented into six key business driver areas, including operational, stakeholder service, and organizational outcomes sections.

CAPT Hereth added that the survey could also be used informally, as a framework for smaller incidents, hotwashes, or exercises.

Best response, CAPT Hereth explained, is the target to achieve a successful response effort. To achieve this, he said, there had to be consensus on what is best response. He explained that there would be a preparedness assessment tool to accompany the best response assessment tool. The preparedness assessment tool will have two parts: a plans assessment tool and a capabilities assessment tool, which are in the process of being developed. The Coast Guard has been stressing readiness to carry out missions, and these tools are about determining if we are ready to carry out our response mission.

CAPT Hereth requested support for the idea to measure the success of a response effort. This support should include input on what constitutes success in a response effort. He asked for any input CTAC members have about the survey. He also requested help in developing a model of what would constitute success in the chemical arena, because all of the work so far has been done

for oil spill response. He added that consensus is very important in this process and would aid in expectation management, setting budgets, preparedness efforts, exercise efforts, and regulatory efforts.

CAPT Hereth thanked everyone and indicated that the presentation and the survey could be placed on the Office of Response website. A copy of his presentation and the prototype survey are included as Enclosures (8) and (9) for information.

Mr. Palmidier Sandhu of Marathon Ashland Petroleum thanked CAPT Hereth for his office's effort. He commented that there has often been a question about what constitutes a good response. He voiced a concern that this survey could become a tool in litigation.

CAPT Hereth replied that the survey is intended to measure success, not judge success. There are circumstances such as weather and operating area that may affect what happens during a response. The survey is not a rigid assessment tool, but was built with the expectation that all response efforts will be different because of their circumstances. The survey will help us develop a statement to measure success against. The Coast Guard and other federal agencies are under the charge to develop outcome based measures of success, implement those measures, and try to reach a level of success. CAPT Hereth explained that there has been a lot of literature on crisis management dealing with critical success factors as a reasonable methodology, and that is the method this survey tries to apply.

Linda Kuhn of Campbell & Graves commented that she thinks that preparedness and implementation are the measures of success. There are going to be a lot of spills, she said, and they will be different and the public perception will be different. We should examine if we were prepared for the incident and if we implemented the equipment resources on standby. The effects on the environment can be second-guessed all day. She added that the consequences of an incident will have to be weighted.

CAPT Hereth answered that in developing the survey, they found that they could not assess the amount of damage and whether the damage had been reduced. The best that can be done, he said, is as Ms. Kuhn said, prepare and implement the response effort in a reasonable way. The survey tool tries to define those items through its 53 terms we see as success. He added that the survey would probably describe Ms. Kuhn's idea of a successful implementation.

Ms. Kuhn commented that her concern is that the end user of the survey information is the public. She gave as an example an incident in which the preparedness and implementation are done well, but the environment is devastated. The Coast Guard says that this was a successful response, but the public does not understand because the environment was devastated.

CAPT Hereth said that this deals with expectation management. The survey deals with response, not prevention. The Coast Guard can try to prevent incidents, but with traffic and cargoes, accidents may happen. The survey aims at measuring preparedness for response and minimizing impacts.

Mr. Varley asked if the survey would replace PREP, especially because real incidents can be counted and evaluated as PREP drills.

CAPT Hereth replied that the survey is a supplemental tool, and PREP is a program of exercises. The survey does not intend to change PREP at all. When the next PREP workshop is held, they might use some of the things we have developed, but it is up to them. He added that the PREP

evaluation tool is very broad, and based on the exercises. He said that the survey and the PREP evaluation tool could mesh nicely, but it is not known whether they would be used together.

h. Ballast Water Management

CDR Scott Newsham, Chief of the Environmental Standards Division, began his presentation by explaining the Ballast Water Management Program is relatively new, but that he would like to pass along the information he has. There is a lot of public interest in the regulations that are required by the National Invasive Species Act of 1996.

CDR Newsham believes that the greatest threat to the marine environment is the introduction and spread of nonindigenous species. These species are able to establish themselves and cannot be removed, he explained, and their wide-reaching effects are difficult to calculate. He used as an example, the zebra mussel in the Great Lakes region, which has resulted in over $5 million in damage. Another example CDR Newsham gave is the green crab, formerly of the East Coast, which has now spread and is causing damage to Pacific Coast aquaculture industry.

The primary method of introduction and spread of these nonindigenous species is believed to be the ballast water on ships, according to CDR Newsham. Over 21 billion gallons of foreign ballast water are discharged into U.S. water each year, at a rate of 2 million gallons per hour. The challenge to the Coast Guard is stopping the introduction and spread of these species while maintaining safety standards and allowing free flow of waterborne commerce.

CDR Newsham cited current regulations that require vessels entering the Great Lakes and upper Hudson River to conduct open-ocean exchange of their ballast water prior to using these waterways. He explained that this procedure fills the ballast tanks with water that is less likely to contain potentially invasive species. The water in these exchanges is defined as water from an area over 200 miles from shore and a depth of 2000 meters. While this is the best solution available, CDR Newsham indicated that this operational practice does raise some safety concerns.

In 1996, the National Invasive Species Act (NISA) expanded the scope of Coast Guard regulations to include all U.S. waters. NISA requires the establishment of voluntary national guidelines to minimize the introduction and spread of aquatic nuisance species. CDR Newsham indicated that the interim final rule should be published this spring, and will implement these guidelines requiring all vessels arriving from outside the U.S. to perform voluntary ballast water exchanges and to report their ballast water management practices to the Coast Guard.

CDR Newsham explained that the ballast water management program focuses on field level efforts including educating the maritime community about the irreversible impacts of invasive species. The Coast Guard is developing a training package for personnel and modules that can be used in public outreach efforts. Next, the Coast Guard will collect data to determine the level of compliance with the voluntary national guidelines. The primary source for this data will be the mandatory reports, but data will also be collected through random boarding of vessels to interview ship personnel and to collect ballast water samples for analysis. CDR Newsham explained that ballast water exchange is viewed as an interim solution, and that technological work is being done to find other solutions such as filtration, ultraviolet radiation, and heat treatment.

CDR Newsham said that the Coast Guard is continuing to work with the IMO to develop international guidelines for ballast water management, and they are looking toward a conference

in 2000-2001 to adopt a legally binding instrument. The Environmental Standards Division, he said, is also working with the Coast Guard's Office of Compliance to avoid a disconnect between the field program and the standards developed.

8. CLOSING

Mr. Book suggested the weeks of September 13th or 20th , 1999, for the next CTAC meeting and asked if there were any major conflicts. No conflicts were mentioned, so the weeks were approved with a finalized date to be determined in the near future. Mr. Book suggested holding the meeting in Houston, TX.

Mr. Book then asked for a motion to close the meeting, and it was done and seconded. He thanked everyone for a good meeting and for each person's continued effort. The meeting was ended at 3:15 p.m.

We certify that these minutes are accurate and complete.

R. Corbin, CDR, USCG Executive Director	Mr. Paul Book By direction of the Chairman
Date	Date

Encl: (1) Lists of Attendees, March 18, 1999
(2) PTP Subcommittee Report
(3) PCN Subcommittee Report
(4) Chemical Naming – A European Perspective Presentation
(5) Harmonized Portable Tank Design Criteria Presentation
(6) Certificate of Inspection – Pilot Program Presentation
(7) Vapor Control Systems Rulemaking Status Presentation
(8) Best Oil Spill Response Practices and New Concepts Presentation
(9) Marine Environmental Response – Key Business Driver Survey